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While I do not wish to denigrate Short's categories for curricular personnel and the products of their labors which appear under the title, "Sources of Knowledge in the Curriculum Field," I find them sterile because they describe what is without reference to what can be. Short's treatment of what is in curriculum evades the problems which make so much of what is in curriculum thought and practice so feeble, so irrelevant, so disastrous for teachers and students who must somehow cope with the problems of education as they attempt to enhance their field of study. In passing, I must register disagreement with the implied hierarchy of Short's categories for human endeavor in the curriculum field (for which he indirectly apologizes). On a rating scale of 1-6, practitioners are low, professional curriculum

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## ABSTRACT

This document is a collection of three essays that deal with the pamphlet "A Search for Valid Content for Curriculum Courses" (ED 040 129). The essay by Marian Martinello (University of Florida) is a review. Martinello finds that the pamphlet lacks continuity and a unifying theme and ultimately that it provides little direct assistance in dealing with the problem of selecting content for curriculum courses. The second essay is Ronald Maertens' (Associate Superintendent, Independent School District No. 316, Coleraine, Minnesota) response to Martinello's review. He questions several of her points and suggests that it would have been better had she provided a rationale for her own view of the domain of curriculum. Judging that formal modes of inquiry would result from her view of curriculum, Maertens suggests that judgments should be based on knowledge of the alternatives and their consequences rather than disciplined modes. Edmund Short, the editor of the original pamphlet, provides the last essay. Answering Martinello, Short writes that the reason the pamphlet does not provide immediately applicable guidance is that not all courses have the same objectives and functions. The articles in the pamphlet are, he states, devoted to the formal methods of research, not to issues to which an immediate answer is needed. (JA)

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REVIEW AND RESPONSES: SUPPLEMENT TO  
A Search for Valid Content for Curriculum Courses  
(ERIC: ED 040 129)

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Review by  
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A Search for Valid Content for Curriculum Courses. Edited by Edmund C. Short. Toledo, Ohio: University of Toledo, 1970.

A field of study, a bonafide discipline, is characterized by a set of universal issues, established modes of inquiry, and theoretical formulations. The field of curriculum may lack modes of inquiry which are unique to its explorations, it may lack well formulated, predictive theories, but it hardly lacks issues of considerable import. It is my opinion that the study of curriculum can be justified to the degree that critical issues in the field are precisely identified. Only then can modes of inquiry, which are appropriate to the questions, be sought from other disciplines or invented. The search for valid content for curriculum courses must begin with a search for universal curricular issues.

As a teacher of curriculum I am concerned with valid content for the studies I undertake with my students. Some months ago, I read the pamphlet, A Search for Valid Content for Curriculum Courses, with considerable interest.

I was impressed by the erudite writings of its contributors. At the time, I was completing my doctoral dissertation. Now, immersed in the battles of the classroom, having to deal with the immediate problems of education and schooling, I find the pamphlet wanting. With the exception of two or three articles, the contents of the pamphlet fail to clearly define the issues which merit cross-cultural study and, therefore, fail to convince the reader that the curriculum field is a vital area of study.

Carol Fisher's article, "Curriculum Problems Facing the Schools: Now and in the Future," defines the curricular questions clearly. Because it does so, it is perhaps the article in the compilation having the greatest impact. Fisher has addressed herself to the malady of education in our time. She asks the kinds of questions teachers are asking, questions born of concern about the process of education and the people who are affected by that process. Fisher has experienced the frustrations of making curriculum something more than a course of study, something more than an idea which looks good in writing. She is concerned with making curricular work to satisfy human interests in becoming educated (in the broadest sense of the term).

The second article of substantial value to the professor of curriculum searching for valid content for his course was authored by John Mann. In "The Curriculum Worker: A View of His Tasks and Training," Mann states:

... I don't believe that statements about what curriculum should be like have meaning outside of the context of the specific commitments of specific groups of people who have in fact taken responsibility upon themselves. The curriculum worker's skill consists, I believe, not in telling people what a curriculum should be like but rather in articulating educational commitments-- his own and those of others who have taken responsibility for control upon themselves -- and in devising the means for expressing and enacting those commitments in programs. His work is not essentially the application of givens but the invention of means for articulating and enacting.

Mann examines a number of critical problems which are central to the curriculum person's activity and, therefore, curriculum as a field of study. He examines the place of belief, of conviction, in the curriculum field. He examines the use of power-in-curriculum. He understands that being is believing is behaving is what curriculum is all about. He recognized that curriculum is a vehicle for attacking the problems of our times. He understands that curriculum is more process than product. And more. He offers some exciting ideas for exploring the valid content of curriculum studies with students, for exploring the valid content of curriculum with the people who seek

relevance in their education, in their interactions with self and others.

Mann's article and the piece by Fisher deal with the issues which justify the existence of curriculum as a field of study. They are of interest to all students of curriculum whether they be primarily practitioners or theorists.

Although Kliebard's scholarly treatment of historical perspectives on curricular issues is slightly out of focus for students of curriculum like myself who are less concerned with justifying the field as a legitimate area of study than with grappling with the problems of "burning" schools by making curriculum work now, I, nonetheless, found his article of interest. Kliebard examines some gross misconceptions as to teaching and learning which have plagued the curriculum field and currently contribute to the disastrous state of education which reflects the wrong priorities for people in the troubled Seventies and beyond.

The remaining articles in the pamphlet are of only limited interest. I do not mean to discount them; they may appeal to some readers. Wooton's "A Survey of Curriculum

"Courses and Content" is an administrator's compendium of current practices and trends. Roberts' "Communicating Curriculum: An Analysis of Current Texts" is a guide to published material. While Roberts makes some useful comments about misplaced emphases in curriculum study, I find the problem of textbook selection for curriculum courses a mundane matter which seems to be out of place among treatments of more basic concerns reflected in the articles by Fisher and Mann. Perhaps this is because I find it difficult to live with the notion of course structures and textbooks for curriculum. I would prefer that students examine philosophical writings as suggested by Mann and the manifestations of curriculum which are evident in accounts of learning through living to be found in the autobiographies of real people. Such writings might better help students search for their own perspectives on curriculum as process than the so-called textbook on curriculum. If, as Roberts claims (and I would agree) most textbooks are immoral because they try to be all things to all men, then I would have preferred a more imaginative exploration of the question of readings for curriculum study than Roberts offer. Indeed, are readings the primary sources of insight into the field?

Soltis' discussion of independent and dependent validity in "The Concept of Valid Content" suggests guidelines for definition of the curriculum field. Soltis does not concern himself with substantive issues. Thus, I found his article, by itself, lacking. Categorized within the pamphlet as an article in philosophical scholarship, the Soltis paper needs a companion piece -- a paper which philosophically treats substantive issues in the field.

While I do not wish to denigrate Short's categories for curricular personnel and the products of their labors which appear under the title, "Sources of Knowledge in the Curriculum Field," I find them sterile because they describe what is without reference to what can be. Short's treatment of what is in curriculum evades the problems which make so much of what is in curriculum thought and practice so feeble, so irrelevant, so disastrous for teachers and students who must somehow cope with the problems of education as they attempt to enhance their field of study. In passing, I must register disagreement with the implied hierarchy of Short's categories for human endeavor in the curriculum field (for which he indirectly apologizes). On a rating scale of 1-6, practitioners are low, professional curriculum

scholars high. Certainly, the significance of the work of the practitioner is different from the significance of the work of the theorist. But being different does not necessarily mean that they are at opposite poles on a quality continuum. Contrary to Fisher and Mann, Short seems to think that practice requires less rigorous study than theorizing. To the degree that he is right, we are in grave trouble because, in my view, curriculum is the product and process of the interbehavior of student and teacher. The point here is that rather than perpetuate what is, we need to consider how to eliminate the boundaries of the boxes we currently use to confine curriculum people, how to educate in order to free practitioners to be theorists and theorists to be practitioners.

As a whole, Short's pamphlet leaves much to be desired. The collected articles lack continuity, a unifying theme. Perhaps this is due to Short's contention that in identifying the body of knowledge which comprises the curriculum field, "almost any related information that has been generated is worthy of consideration." I think the field is done a disservice by lack of attempt to define its boundaries. It is unfortunate that Mann's call for

curriculum people to stand up and be counted for what they believe was not explored as an organizing theme for the pamphlet. It is only when one is lacking in conviction that anything goes. Our biggest problem today is that too many curriculum people don't know what they believe. To the extent that we are uncertain about our beliefs in our chosen area of professional endeavor, we violate the curriculum field.

In summary, the search for valid content for curriculum courses is not greatly advanced by this publication. Here and there throughout the pamphlet appear some insights into the acute curriculum problems we face and for which we intend to prepare inquiring scholars and practitioners. In defense of his pamphlet, Short states in his forward that the collected articles only claim to raise questions, not to answer them. I could accept this if I honestly thought that a consistent attempt had been made to bring the cross-cultural curricular questions into high relief. As a problem-beset curriculum person, I must demand more than the pamphlet offers. I must demand the best analyses, the most provocative and complete treatments of the problems I face daily as a curriculum practitioner and inquirer, student and teacher. I must demand that the search for valid

content of the curriculum field come before the search for content for courses and that the quest engage me with some grand ideas for experimentation in my field of study. It would be unfair to say that A Search for Valid Content for Curriculum Courses has not helped me advance my search for such content. Nonetheless, I feel compelled to add that the pamphlet's contribution to my quest has been slight.

Reactions to Marian Martinello's Review

by

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Martinello imposes several interpretations upon the materials she has reviewed which may not be warranted. First, after asserting that "the study of curriculum can be justified to the degree that critical issues in the field are precisely identified," she claims that the articles in the pamphlet do not satisfy her view of what constitutes the domain of curriculum inquiry. Rather than the focus she prefers, the articles explore the more standard kinds of researchable problems and the more conventional disciplined modes of inquiry. Before reviewing the pamphlet, it seems Martinello would have made a greater contribution to the thinking about curriculum as a field of study if she had provided a rationale for her novel view of the domain of curriculum, and if she had shown how such issues in fact define the field.

Moreover, there is a danger in accepting the definition of the domain of curriculum which Martinello stipulates. This danger is well expressed by Kliebard on page 33 of the pamphlet when he states, "Issues tend to arise de novo, usually

in the form of a bandwagon and then quickly disappear in a cloud of dust. Sometimes these issues have their counterparts in an earlier period, but this is rarely recognized. The field in general is characterized by an unusual propensity for novelty and change rather than funded knowledge or a dialogue across generations.<sup>11</sup> Is it possible to resolve the kinds of transitory issues identified by Kliebard through the application of disciplined modes of inquiry? The particular issues of the field may suggest where the emphasis in research should be placed, but they would not appear to constitute researchable problems in and of themselves. Rather than application of formal modes of inquiry, such practical issues require judgment based on knowledge of alternatives and their consequences.

Secondly, Martinello states that only two or three articles in the series "clearly define the issues which merit cross-cultural study" and that the pamphlet, therefore, does not exhibit evidence "to convince the reader that the curriculum field is a vital area of study." Does Martinello mean "inter-disciplinary" when she uses the term "cross-cultural?" If so, is she saying that the field of curriculum is not a

ta<sup>r</sup> area for study unless its issues are worthy of inter-disciplinary study? If this were true, how could curriculum be a discipline and have a domain of its own? Is its chief claim to autonomy that it is a field which deals only with inter-disciplinary issues?

Thirdly, Martinello imposes an interpretation on Fisher's article that is questionable. This article has the greatest impact, she says, because it has "defined the curricular questions clearly." In reality, what Fisher's article does is size up the curricular context and raise questions of a moral nature about the purposes and processes of education. It may imply some preferred practices, but it does not contain specific alternatives regarding curricular objectives, content, program designing, instructional practices and the like. Fisher has really examined only one curricular issue, "what substantive values shall a curriculum embrace? Much work would have to be done in this area alone, to say nothing of the issues in many other areas, in order to turn her analysis into useful operational guidelines.

Perhaps Martinello feels that both Fisher's and Mann's works are particularly relevant because they identify and analyze aspects of the curriculum worker's agonizing situation which she believes to be a central concern, but neither of

these articles provides a course of action equal to the demands of this reality. Both scholars are essentially inquiring into certain dimensions of the curriculum problem and giving birth to some new conceptualizations which may (or may not) be useful in developing more effective ways of dealing with the reality that now exists. Just because they have raised fundamental questions does not mean that the work of Fisher and Mann "justify the existence of curriculum as a field of study" any more profoundly than the work of other curriculum scholars. They would probably be the first to admit that their seminal inquiries are only a part of a larger search for knowledge that is needed before curriculum workers can invent and implement better curricula. Although they would affirm Martinello's demand that "the search for valid content of the curriculum field" should precede "the search for content for courses," they would resist the temptation to provide solutions to practical curriculum problems in the absence of more complete knowledge.

One last interpretation of Martinello's requires some comment. In his article, Short does not seem to imply any hierarchical system of rating scholarly work done by workers

in his six categories. In fact, he draws attention to scholarly work often given little status, as in the case of personnel in the first category (teachers, curriculum directors and supervisors, and administrators), and attempts to show how basic such work may be to the generation of fruitful scholarship in other categories of research. If there is any hierarchy implied here, it may be that the study of practice is fundamental to all other study and that gathering data about curricular practice is not only a legitimate, but an essential, part of curriculum scholarship. Short does not seem to make a qualitative judgment, as Martinello charges, between the relative worth or amount of rigorous thought required of those who conduct practice and those who conduct research in all six categories.

Response

by

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Any serious effort to identify strengths and weaknesses in curriculum scholarship must be greeted with gratitude; there is too little public exchange of this kind on the field of curriculum. It is through such analysis and criticism that a knowledge base for curriculum practice gradually becomes more refined and useful. Martinello's critique of this series of papers must be recognized as a contribution toward attaining scientific knowledge of one dimension of the curriculum field.<sup>1</sup> For this reason, her work is worthy of our attention and compels a thoughtful response.

The critique's central contention appears to be that the pamphlet gives little direct assistance in dealing with the problem to which its title says it is addressed--the matter of selecting content for curriculum courses. The

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<sup>1</sup>"Its (scientific knowledge's) facts and theories must stand a period of critical study and testing by other competent and disinterested individuals, and must have been found so persuasive that they are almost universally accepted. The objective of Science is not just to acquire information nor to utter all non-contradictory notions; its goal is a consensus of rational opinion over the widest possible field." John Ziman, Public Knowledge. New York: Cambridge University Press, 1968. p. 9.

reviewer wishes it had substantive prescriptions that could be tried and tested or, at the very least, some provocative and suggestive analyses of the problem as it exists for her. She recognizes that the intent of the papers was not chiefly to provide such immediately applicable guidance, but the reasons it could not and, I think, ought not to have attempted this were perhaps not clear to her.

Urgent as the need for improvement in curriculum courses may be, no one can suppose all such courses have the same objectives. In fact, Wootten's survey (pp. 73-82) suggests that a bewildering variety of purposes exist for those courses now taught. The internal structure and treatment provided by a course must vary with both its own particular objectives and with the function the entire course is intended to serve in the larger professional preparation program of which it is ~~a~~ part. Without knowing such details, one would be unable to make direct suggestions for course content that would suit the circumstances. Even if one wished to prescribe course content for some mythical "average" course, it no doubt would prove useless to everyone who happened not to agree with the rationale given for it or with the objectives stipulated. If copied directly without thought or adaptation, it might prove exceedingly ill-advised. It seems to me quite desire-

able to leave open all questions of what kind of courses are appropriate, and consequently, what kind of content would be useful in them until people involved with them have seriously wrestled with what they think should be accomplished through such courses and why such goals are best for their particular students.

If none of this kind of help was going to be given by this series of writers, why did they bother to say anything? I think the answer lies chiefly in a belief that the route toward decision-making on curriculum course content lies not so much in speculative efforts to hit upon "right" content or function but in increasing conceptual control over the variables that are relevant to such decision-making. We generally use the term "knowledge" to indicate whatever limited conceptual control we have attained at a given point in time. I think what prompted the writers to present what they did present was their devotion to getting a fix on whatever relevant curriculum-related knowledge might be at hand or might be augmented by their own immediate scholarly input. Whether any of them pinned down any such knowledge of value remains to be tested by those who read the pamphlet and attempt to verify the utility of the several "bits" of knowledge it alleges to have identified.

What makes even more difficult any attempt to evaluate the ultimate value of anything said in the papers is the obvious fact that not all knowledge that might conceivably be brought to bear on the problems of selecting curriculum course content could be presented or even alluded to in these brief papers. It was the editor who chose the scope of the sampling of such knowledge to be treated, and his choices may have produced work by the writers which at first may seem some distance from the requirements of the very practical question addressed by the pamphlet, or seem to ignore much that may be relevant or more central in some people's minds. I do not defend what is here as sufficient knowledge with which to cope with this question. Indeed, I know only too well that there isn't enough appropriate knowledge available, here or elsewhere, to be certain that this problem can be resolved satisfactorily; thus the need for a continuing search for more knowledge. The primary assumption, therefore, behind the entire venture is that research--basic research in curriculum-- must precede any application of that knowledge to the solution of a practical problem, even one in the field of curriculum.<sup>2</sup>

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<sup>2</sup>One should not be confused by this talk of developing (or seeking) solutions to a practical curriculum question and the matter (one step removed from this) of seeking knowledge upon which solutions might be built.

We recognize, for example, that if we wish to select a means of using geothermal steam to heat a city, we require

Martinello is right when she calls for a shaping up of the boundaries of the curriculum domain, the identification of the basic questions of the field, and the creating and testing of concepts and conceptual frameworks within the scholarly discipline of curriculum study.<sup>3</sup> These are prerequisites to producing any knowledge that may have utility in dealing with very practical problems on the front lines of curriculum practice.

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more input for our decision-making than knowledge of the heat energy potential of the specific supply of steam. Knowledge of such other things as the heat energy requirements of the city, the properties of various conveyor pipes, total labor costs, and the city's ability to pay, must also be available. It is futile, nonetheless, to attempt to solve this practical problem without precise knowledge of the thermal properties of such steam. This knowledge becomes the central ingredient to a decision, without which decision cannot be made, though it is by no means the only knowledge to be considered.

Similarly, in selecting content for a curriculum course, one needs all sorts of knowledge--knowledge of purposes, student entry levels and goals, time and resource constraints, capabilities of instructors, and the like, as well as basic knowledge of the phenomena to be dealt with in the course. If we do not have precise knowledge of curriculum we cannot appropriate some of it for teaching in a curriculum course even if we have available the knowledge of other elements that impinge upon the decision. The creation of the technical knowledge upon which the problem of selection might be solved is quite a different matter from determining a solution to the problem in a given context. These two steps are distinct, and dealing with the practical one must follow upon the heels of the one focused on generating the requisite technical knowledge. Curiously, what may be even more confusing than failure to distinguish problem-solving from research is the fact that in the study of curriculum the basic knowledge generated includes not only substantive content available for

Admitting this, however, I must reiterate what has already been pointed out, that identifying everyday problems of practice that require solution is an entirely different, although related, matter from identifying researchable questions that can be attacked with tools of disciplined inquiry.

It is to questions of the kind to which formal methods of research are applicable that the articles in the series are devoted, not to issues for which immediately useful solutions to problems of practice must be provided. Notice, for example, that the historical mode of inquiry used by Kliebard is directed not to an immediately applicable solution to the problems of setting objectives or of differentiated programs. Rather, his work is one small contribution to the on-going examination of two major concepts that have risen and been used in the field. The historical mode of inquiry cannot appropriately be applied, in and of itself,

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use in curriculum courses but also as one aspect of this content those generic guidelines for selecting content that may be critical in the problem-solving phase.

<sup>3</sup>See early portions of Ian Westbury, "Curriculum: A Discipline in Search of its Problem," School Review, Vol. 79, No. 2 February, 1971. pp. 243-267.

to practical matters requiring judgment and reasonable justification. Philosophical analysis, as illustrated by Soltis' work, is similarly not applicable to such problems. The identification and ordering of curriculum knowledge, as urged by Short, is again not an approach which can directly provide assistance for coping with practical curriculum problems. I contend that such research, commanding any and all modes of disciplined inquiry, together with their accumulated residue of knowledge are, however, essential for the improvement of practice. It is to this domain of knowledge and its associated processes of knowledge creation that we must turn if we are to provide the concepts and generalizations most appropriate for our students to know if they are then to be able to develop adequate solutions to the changing problems of curricular practice.<sup>4</sup>

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<sup>4</sup>Elsewhere, I have reviewed the matter of creating and utilizing curriculum knowledge, insofar as it has been studied to date. Clues to possible redirection of research are identified in view of the interrelation between knowledge needs expressed by users and capabilities of different types of research approaches. See Edmund G. Short, "Knowledge Production and Utilization in Curriculum." Paper presented at the annual meeting of AERA, New York, February, 1971. (ERIC: ED 055 023)

What Martinello recognizes as a fundamental weakness in the papers is not so much due to their irrelevance to the world of curriculum but to their character as research documents which necessarily does not allow them to be focused directly on practical problems. Her point raises the serious question, nevertheless, of how to get research to be more closely or more quickly resultant in ideas that matter to people facing the real world of curriculum. The place to start, I would say, is to determine precisely what problems of curricular practice are the ones requiring solution. If they are purely technical in nature and not just matters compelling a choice among substantive alternatives, one may turn to the technical literature of curriculum and select the technological knowledge which provides appropriate "how-to-solve-this-type-of-problem" answers. If a problem is a recurring one, no doubt some kind of technological knowledge will be found that offers guidelines for action appropriate to the solution of the problem. If no such technological knowledge is available, or if the applicability of what exists is questionable, then there is need for knowledge to be developed that matches the need.

This type of technological knowledge needed to build substantive alternatives of the kind Martinello seems to be seeking is little recognized and seldom generated. To my mind, the development of such technological knowledge in curriculum is absolutely essential if viable solutions to practical problems are to be found. To devise solutions to these issues without the use of this kind of knowledge is to have no assurance whatsoever of the consequences of acting upon the proposed solutions. With sound technological knowledge, however, there can be some confidence of the outcomes of putting alternative solutions into effect. This is by definition what technological knowledge must be capable of doing.<sup>5</sup>

The pamphlet under discussion clearly does not come to grips with this kind of knowledge. There are intimations of its existence, but in effect the scholarly efforts exhibited in the papers are aimed at a narrower range of concerns than those requiring the generation of alternative solutions to

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<sup>5</sup>For an example of this kind of technological knowledge see Marcella R. Lawler, "Guidelines for Developing Strategies for Introducing Planned Curricular Innovations," pp. 13-47 in her edited collection of articles, entitled, Strategies for Planned Curricular Innovation (New York: Teachers College Press, 1970). Other examples are cited in the reference given in footnote 4 above.

practical problems. These inquiries have been directed to examining or generating the building blocks from which technological knowledge in curriculum may be developed. The methods used in these inquiries are the usual ones. A convenient research question is selected to which a particular mode of inquiry can legitimately be applied. Basic curriculum knowledge is then generated which meets the test for knowledge claims applicable in that discipline. The results of this work are set forth for others to verify and to synthesize with already verified knowledge. In some cases, large webs of knowledge in a given dimension of the field are identified. Sometimes one study or a series of related studies overturns a whole pattern of knowledge and permits a new conceptual scheme to be launched for further testing. On the other hand, when it comes to generating technological knowledge in curriculum, selected basic curriculum knowledge from within this accumulation of the results of many disciplined studies is combined with knowledge from other pertinent sources (child psychology, societal values, change processes, etc.) and structured into a totality that focuses on a particular kind of practical problem in the field. Its purpose is to provide guidance for choice or action. Its method is creative

and synthetic in character. More than one technology can be created to meet a given need; therefore, each body of technological knowledge is applicable only under certain conditions. Users of this technological knowledge must not only translate it into alternative solutions to a particular problem but must do so within the limits imposed by the creators of the knowledge which was chosen to be utilized. Determination of the appropriate technological knowledge to use in a key factor here. What Martinello implies in her remarks is that a user of such knowledge is likely to become frustrated if, in the search for appropriate knowledge of this kind, nothing appropriate to the particular problem and to the particular conditions of the problem seems to be available. I take her to be putting forth a cry for more technological knowledge that is geared to commonly found practical problems in the field. In this plea I concur and recognize her basic criticism of the pamphlet.

In assessing efforts at creating both basic and technological knowledge in curriculum, I am tempted to think that many curriculum researchers are not aware of the differences between these two types of knowledge, their distinctive methods

of generation, or the relation each has to the other and to practice. In the whole sequence from recognition of a problem, to seeking sources of knowledge to use in its solution, to the creation of the various contributing pieces of knowledge found in these sources, and ultimately to the research methodology necessary to create and validate such pieces of knowledge, there is doubtlessly much yet to be understood about these processes by many curriculum scholars. Ordinarily, those who set about to do curriculum research have an insufficient grasp of the point in this entire sequence at which they are attempting to make their contribution. They may even mistake the tasks and the techniques necessary to produce the results they seek for those more appropriate at another point in the sequence. Considerable assistance in sorting out what is what has recently been provided by Schwab,<sup>6</sup> but more help along these lines must yet appear.

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<sup>6</sup>Joseph J. Schwab, The Practical: A Language for Curriculum. Washington, D. C.: National Education Association, 1970.